

Application No. 09/996,712
Amendment Dated March 1, 2004
Reply to Office Action of December 5, 2003

Attorney Docket No.: P-0289

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An apparatus for displaying image data direction of a terminal, comprising:

Q⁴ a codec for performing converting operation between analogue voice data and digital voice data;

a camera module for performing converting operation between analogue image data and digital image data;

a direction sensor for detecting compass orientation direction of a photographing object;

an A/D converter for converting analogue direction data detected by the direction sensor into digital direction data;

a voice/image communication apparatus for multiplexing or demultiplexing the converted voice, image and direction data;

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a LCD module for displaying image and direction data multiplexed from the ~~voice~~
voice/image communication apparatus; and

a control unit for controlling each unit generally.

Q4 2. (Currently Amended) The apparatus of claim 1, wherein the direction sensor detects a compass orientation direction of a photographing object, which is identical with a photographing direction of a camera.

3. (Currently Amended) The apparatus of claim 1, wherein the ~~[[a]]~~ voice/image communication apparatus comprises:

a voice encoding processing unit for encoding the voice data inputted from the codec or converting the voice data transmitted from a multiplexing processing unit into data for ~~displaying in~~ transmitting to a speaker in ~~opposition~~;

an image encoding processing unit for encoding the image data inputted from a camera module or converting the image data transmitted from a multiplexing processing unit into data for displaying on an LCD ~~in~~ opposition;

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a direction displaying processing unit for encoding the direction data inputted from the A/D converter or converting the direction data transmitted from a multiplexing processing unit into data for displaying on an LCD ~~in opposition~~; and

Q4 [[the]] a multiplexing processing unit for ~~multiplexing processing unit for~~ multiplexing the voice, image and direction data or demultiplexing to display the a multiplexed image and direction data on an LCD.

4. (Currently Amended) The apparatus of claim 3, wherein the direction displaying processing unit calculates compass orientation ~~direction and angle of a photographing object on the basis of direct north and south~~ and encodes the data of calculated compass orientation ~~direction and angle~~ by formatting the ~~above data as~~ calculated compass orientation direction ~~into~~ a binary value.

5. (Original) The apparatus of claim 3, wherein the direction displaying processing unit is further set to have a direction displaying area at one side of the screen.

6. (Currently Amended) The apparatus of claim 3, wherein the direction displaying processing unit is further set to display a direction on the screen ~~in the form of onscreen~~.

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7. (Currently Amended) The apparatus of claim 3, wherein the direction displaying processing unit is further set to display a direction on the screen in the form of a compass.

Q4 8. (Currently Amended) The apparatus of claim 3, wherein the multiplexing processing unit multiplexes encoded packet data by receiving the data from the voice encoding processing unit, image encoding processing unit and direction displaying processing unit and inputs the data to ~~the~~ an image frame by forming a flag and header to distinguish the image frame.

9. (Currently Amended) The apparatus of claim 3, wherein the multiplexing processing unit is further set to form null data if no data ~~to transmit~~ is transmitted to a terminal exists.

10. (Currently Amended) A method for displaying image data direction of a terminal, comprising the steps of:

demultiplexing an image frame received from a multiplexing processing unit and separating the image frame into image, voice and compass orientation direction data; and

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displaying the separated image and compass orientation direction and image data on an LCD ~~according to control of a direction displaying processing unit.~~

Q 4 11. (Currently Amended) The method of claim 10, wherein the multiplexing processing unit checks the received image frame and forms null data if the data are not normal in the separating step image frame is not separable.

12. (Currently Amended) The method of claim 10, wherein the displaying step comprises the steps of:

~~separating,~~ detecting the data-demultiplexed image data and direction data and transmitting said detected data to an image encoding processing unit and [[the]] a direction displaying processing unit;

checking the transmitted demultiplexed data ~~whether for~~ a direction displaying mode is set through from the direction displaying processing unit;

determining a position and a method ~~in for~~ displaying the image and compass orientation direction and image data on the LCD ~~according to control of~~ from the direction displaying processing unit ~~in case if~~ the direction displaying mode is set; and

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displaying the image and compass orientation direction and ~~image data~~ on the LCD in the determined position and ~~displaying form~~ determined method.

Q⁴ 13. (Currently Amended) The method of claim 12, wherein the LCD displays only image data read from the LCD module a voice/image communication apparatus if the direction displaying mode is not set in the direction displaying processing unit.

14. (Original) The method of claim 12, wherein the direction displaying processing unit is further set to have a direction displaying area at one side of the screen.

15. (Currently Amended) The method of claim 12, wherein the direction displaying processing unit is further set to display direction on the screen ~~in the form of onscreen~~.

16. (Currently Amended) The method of claim 12, wherein the direction displaying processing unit is further set to display a direction on the screen in the form of a displaying compass.

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17. (Currently Amended) The method of claim 12, wherein the displaying step is also adapted in case the transmitted image frame is a comprises a transmitted stop image.

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18. (Currently Amended) The method of claim 12, wherein the LCD ~~[[is]]~~ further set to display displays time and date information together with the image and compass orientation direction data displaying method.

19. (Currently Amended) A method for displaying image data direction of a terminal, comprising the steps of:

formatting a detected analogue compass orientation direction data into a binary value of a certain bite and encoding ~~the said binary~~ value;

multiplexing the encoded compass orientation direction data binary value together with the image and voice data and forming an image frame; and

transmitting the formed image frame ~~into~~ to a base station.

20. (Currently Amended) The method of claim 19, wherein the multiplexing step comprises the steps of:

receiving the packetized voice data through a voice encoding processing unit;

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receiving ~~the~~ packetized image data through an image encoding processing unit;
multiplexing the ~~transmitted~~ received packetized voice and image data and the
encoded compass orientation direction data as an image frame; and
generating and inserting flag and header information in the ~~multiplexed~~ image
frame.

21. (Currently Amended) The method of claim 19, wherein a compass orientation
direction ~~and angle~~ of a photographing object is calculated ~~on the basis of direct north and south~~
~~direction~~ by formatting the calculated compass orientation direction ~~and angle~~ data, wherein the
data is encoded into an image packet ~~in the step of~~ while formatting the compass orientation
direction data.

22. (Currently Amended) The method of claim 21, wherein the direction ~~and angle~~
data ~~are~~ is formatted to display ~~displayed~~ respectively one bite of information.

23. (Currently Amended) The method of claim 19, wherein the multiplexing
~~processing unit~~ step forms null data if data ~~to be~~ is not transmitted to the base station ~~do not~~
exist.